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AUTHOR Campbell-Goymer, Nancy R.
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ABSTRACT

Many researchers and clinicians are diagnosing depressed children according to criteria resembling those used to diagnose depressed adults. To investigate cognitive correlates of depression in children two studies were conducted. In the first study 37 children in grades 5-7 were given a booklet containing the Children's Depression Inventory (CDI) and the Children's Cognitive Distortion Task (CCDT) minus titles. Results indicated that the degree of depression manifested by children as measured by the CDI was positively correlated with their endorsement of depressed, distorted responses, and negatively correlated with their endorsement on nondepressed, nondistorted responses on the CCDT. The second study was part of a larger investigation examining the relationship of selected situational and subject variables (one of which was depressive status, as measured by the Personality Inventory for Children Depression Scale) to school children's role-played assertive behavior and concurrent self-statements. The results indicated that relatively depressed children's self-statements (N=32) were less facilitative of assertion than those of nondepressed children (N=32). The depressed children differed in particular by thinking more assertion-inhibiting thoughts. Analyses of overt behavior scores yielded mixed results regarding the presence of assertion deficits in depressed children. The results of both studies lend support to the practice of extrapolating from research and theory on depression in adults, specifically, cognitive theory and research, to childhood depression. (Author/LLL)

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Cognitive Correlates of Childhood Depression

Nancy R. Campbell-Goymer

William Clarence Allgood, III

Birmingham Southern College

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Requests for copies of this paper should be sent to Nancy Campbell-Goymer, Ph. D., Associate Professor of Psychology, Box A-37, Birmingham Southern College, Birmingham, AL, 35254.

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Abstract

Two studies of the cognitive correlates of childhood depression were conducted. The first examined 37 school children's cognitive reactions to a children's version of Krantz and Hammen's (1979) Cognitive Distortion Task. It was predicted and demonstrated that the degree of depression manifested by children, as measured by the Children's Depression Inventory (Kovacs, 1981), is positively correlated with their endorsement of depressed, distorted responses (r=.45; p=.003) and negatively correlated with their endorsement of nondepressed, nondistorted responses (r=-.57; p=.000). The second study was part of a larger investigation examining the relationship of selected situational and subject variables [one of which was depressive status, as measured by the Personality Inventory for Children Depression scale (Wirt, Seat, & Broen, 1977)] to school children's role-played assertive behavior and concurrent self-statements. The results indicated that relatively depressed children's (n=32) self-statements were less facilitative of assertion than were those of nondepressed children (n=32) ([F(1,60)=18.802, p=.0002); the depressed subjects differed in particular by thinking more assertion-inhibiting thoughts [F(1,60)=7.362,p=.0085]. Subjects' self-statements and overt behavior (lower ratings represent greater assertiveness) were significantly correlated (r=-.189, $p\leq$.05). Analyses of subjects' overt behavior scores yielded mixed results regarding the presence of assertion deficits in depressed children. The results of the studies are discussed in terms of the validity of extrapolating to childhood depression from research and theory on depression in adults and in terms of Beck's (1967; 1974) and Lewinsohn's (1974) theories of depression.

Cognitive Correlates of Childhood Depression

The phenomenological similarity of adult and childhood depressions (Bemporad, 1978b; Birleson, 1981; Kovacs & Beck, 1977; Leon, Kendall, & Garber, 1980; Orvaschel, Weissman, & Kidd, 1980) and the heuristic value to research on childhood depression of concepts and research methodologies in the adult depression literature (Cantwell & Carlson, 1979; Carlson & Cantwell, 1980a,b; Conners, 1976) are being increasingly recognized. Many researchers (Carlson & Cantwell, 1980a; Cytryn, McKnew, & Bunney, 1980) and clinicians (Birleson, 1981) are diagnosing depressed children according to criteria resembling those used to diagnose depressed adults. More slowly, investigations of childhood depression are being guided by theoretical models of adult depression (e. g., Leon et al., 1980; Peacock, 1982).

The current research consists of two such studies. Both were stimulated, in part, by Beck's (1967; 1974) cognitive theory of depression. Beck maintains that the affective and behavioral components of depression stem from faulty cognitive schema developed early in the depressive's life; these faulty cognitive patterns mediate the affective and behavioral manifestations of depression. The current research was stimulated by Beck's views in that both studies involved predictions regarding the cognitive correlates of depression in children; the second study also

investigated the possible mediation by maladaptive cognitions of behavioral deficits in relatively depressed children.

The first study was an adaptation of Krantz and Hammen's (1979) and Blaney, Behar, and Head's (1980) research on cognitive distortion in depressed adults. The research involved revising the Cognitive Distortion Task (Krantz & Hammen, 1979) for use with children. It was hypothesized that depressed, distorted cognitions and depression would be positively correlated and that nondepressed, nondistorted cognitions and depression would be negatively correlated.

The second study was a follow-up to Peacock's (1982) research on the assertion skills of relatively depressed and nondepressed girls. Drawing on Lewinsohn's (1974) behavioral theory of depression, Peacock predicted and demonstrated that depressed girls, relative to nondepressed girls, were deficient in a number of component skills of assertion. The current study extended her research by investigating whether such assertion deficits are mediated by assertion-inhibiting thought patterns.[1] It was predicted that children's assertion-related self-statements would correlate with their overt behavior in situations warranting assertive responses and, further, that, in these situations, relatively depressed children would report experiencing thought patterns less facilitative of assertive responding than those of nondepressed children.

Study 1

Method

Subjects. The parents of children in regular classrooms, grades 5-7, of three Birmingham, AL, public schools located in lower-middle- and middle-class neighborhoods were contacted by letter regarding the study being conducted. Those 49 children whose parents consented participated in the study. However, twelve protocols had to be eliminated from analysis because of students' failure to complete all items. Thus, 37 students (22 females, 15 males) comprised the subject sample.

Materials. A booklet containing the Children's Depression Inventory (CDI)[2], and the Children's Cognitive Distortion Task (CCDT)(described below)--minus titles--was compiled by the investigators. The two sections of the booklet were separated by a colored pac indicating the end of the CDI and the beginning of the CCDT. The CDI was selected as the measure of depression because it appears to be the best validated self-report measure of childhood depression currently available (see Kovacs, 1981).

The CCDT, developed by the investigators, was patterned after the Cognitive Distortion Task, developed by Krantz and Hammen (1979) for use with adults. The CCDT contains five brief stories, each followed by three or four multiple choice questions. Each question has four alternative answers, one each reflecting depressed, distorted (DD), depressed, nondistorted

(DND), nondepressed, distorted (NDD), and nondepressed, nondistorted (NDND) content, as defined by Krantz and Hammen. Subjects earn four scores on the task, the total number of DD, DND, NDD, and NDND alternatives they endorse.

The "depressed" items on the CCDT reflect dysphoric affect; the "distorted" responses do not follow logically from the information provided in the stories. The distortions represented include those described by Beck (1967;1974) as common to depressed persons, e.g., arbitrary inference, overgeneralization. The content of the stories involve difficult interpersonal and achievement-related situations and, based on the comments of children who participated in the development of the task, appear to be easily understood, plausible, and relevant to older children's experiences. The appendix contains one story and its questions.

Subjects complete the CCDT by reading each story and answering its questions while imagining they are the main character in the story. They are instructed to select the alternative answers which best reflect what they would think and feel were they actually involved in the situations described. There is no time limit for the task, but most subjects completed it in 15-20 minutes.

Procedures. Subjects were tested in groups, ranging from seven to fifteen in size, at their schools in either the library

or a vacant classroom. The second author served as examiner for all subjects. The sessions began with him briefly explaining the purpose (to better understand children's thoughts and feelings) and procedures of the research and securing the children's consent to participate.

Each subject was then given one of the booklets containing the CDI and the CCDT. The booklet was briefly described, and standard instructions for completing the CDI were given. The children were instructed to close their booklets when they reached the colored page which signalled the end of the CDI. When all subjects had completed the CDI, they were given instructions regarding completion of the CCDT and were asked to close their booklets and to wait quietly when they finished that task.

After all subjects had completed the tasks, the examiner thanked them for their participation and asked whether they had had any difficulty understanding either section of the booklet. Only one group, comprised mainly of seventh-grade boys, indicated any problems; they indicated some of the items seemed "silly." At the end of the sessions, subjects were dismissed back to their classrooms.

Results

Descriptive statistics. Means and standard deviations on the five measures employed were as follow: *M* CDI=9.9 (*SD*=7.0); *M*

DD=1.2 (SD=1.5); M DND=3.6 (SD=2.4); M NDD=1.6 (SD=1.4); M NDND=12.5 (SD=4.1). The sample's CDI mean and standard deviation are very similar to those published by Kovacs (1981), suggesting the subjects were a fairly representative sample of school children. On the CCDT, DD responses were least frequent, NDND most frequent, findings consistent with those for adults (Krantz & Hammen, 1979).

Relationships between CCDT and CDI scores. Pearson product-moment correlations were calculated for subjects' CDI scores and each of their CCDT scores. The results indicated significant correlations, as predicted, between CDI and DD scores (r=.45; p=.003) and between CDI and NDND scores (r=-.57; p=.000). The correlation between CDI and DND scores (r=.54; p=.000) was significant, and the correlation between CDI and NDD scores (r=.26; p=.062) approached significance.

Comparisons of groups. Oneway analyses of variance examined the CCDT scores of subjects divided into high-, medium-, and low-CDI groups (with one randomly-selected subject omitted). The groups differed significantly, as predicted, on DD scores [$F(2,33)$=3.592; p=.0388] and NDND scores [$F(2,33)$=8.621; p=.001]. As Table 1 (next page) indicates, not all the differences between levels were significant, but the extreme groups did differ significantly, and all the means were ordered as expected: NDND scores increased from 9.1 to 13.3 to 14.7 and DD scores decreased

from 2.0 to 1.3 to 0.4 across the three groups.

Table 1

Group Means on Children's Cognitive Distortion Task (CCDT)

		CCDT Scores			
Group	CDI[a]	DD	DND	NDD	NDND
High CDI	17.9	2.0_{a}	$5.3_{b,c}$	2.3	$9.1_{d,e}$
Medium CDI	8.7	1.3	3.3_{b}	1.3	13.3_{d}
Low CDI	3.3	0.4_{a}	2.5_{c}	1.4	14.7_{e}

NOTE: DD=depressed, distorted; DND=depressed, nondistorted; NDD=nondepressed, distorted; NDND=nondepressed, nondistorted.

[a] Mean Children's Depression Inventory scores.

a,b,c,d,e Differences between groups significant at $p \leq .05$

Study 2

Method

Subjects. Sixty-four Caucasian children in regular classrooms, grades 5-7, of Birmingham, AL, public schools in lower-middle- and middle-class neighborhoods served as subjects. On the basis of gender and scores on the Personality Inventory for Children (PIC) Depression (D) scale (Wirt, Seat, & Broen, 1977), four groups of 16 subjects each were formed: depressed

boys, depressed girls, nondepressed boys, and nondepressed girls. Criteria for assignment were the same as those employed by Peacock (1982): the relatively depressed subjects scored at least 1.5 standard deviations above the published scale mean for children 6-16 years of age (i.e., obtained raw scores $\geq$ 15); nondepressed subjects scored at least .5 standard deviation below the mean (i.e., obtained raw scores $\leq$ 5). Mean PIC D scale scores were 21.6 and 2.9 for the depressed and nondepressed groups, respectively. All subjects were of at least average intelligence ($\geq$89 I.Q.) as measured by the Peabody Picture Vocabulary Test (Dunn, 1965).

Children in each group were subsequently assigned randomly to one of two conditions, one involving the presentation of the tasks described below in a positive-negative order, the other involving the presentation of the tasks in a negative-positive order.[3]

Materials. The following materials were used:

(1) Role-play assertion task. Eight videotaped role-play scenes developed by Peacock (1982) were employed as the role-play task. Two situational variables are varied systematically across the scenes so that subjects respond to two each of four different types of scenes: two depicting a male role-play partner in a positive assertion interaction; two depicting a male role-play partner in a negative assertion interaction; two depicting a

female role-play partner in a positive assertion interaction; two depicting a female role-play partner in a negative assertion interaction. The negative assertion situations warrant the expression of noncompliance; the positive assertion situations warrant the expression of praise, appreciation, or liking. The scenes depicted appear to closely approximate naturally-occurring assertion interactions common to children's experiences and appear free from confounding by the attractiveness of the two Caucasian boys and two Caucasian girls, ages 10-13, who served as actors (Peacock, 1982).

(2) Assertion self-statements tasks. Two investigator-developed self-statements tasks, a positive form and a negative form, were employed to measure the types of self-statements made by subjects as they responded to the assertion scenes. In structure, administration, and scoring, the tasks resemble those employed in research on the self-statements of unassertive adults (Bruch, 1981; Pitcher & Meikle, 1980; Schwartz & Gottman, 1976). The content of the items was based on a review of the literature describing cognitive correlates of depression (e.g., Abramson, Seligman, & Teasdale, 1978; Beck, 1967; Blaney, 1977; Rehm, 1977; Shaw & Dobson, 1981).

A pool of potential items were submitted to six clinician judges familiar with the concept of assertiveness. The judges were given descriptions of positive and negative assertion

(Peacock, 1982, p. 176) as guides and were asked to categorize each of the items as assertion-inhibiting or assertion-facilitating. From items which were unanimously categorized regarding their effects on responding, two forms of the self-statements task were created, one appropriate to the negative assertion interactions, the other to positive assertion interactions. Each form contained ten items, five assertion-inhibiting items (e.g., "If I say what I think or feel, the other person will think I'm dumb or silly") and five assertion-facilitating items (e.g., "When I like something or someone, I should say so").*

Procedure. Homeroom teachers distributed to their students envelopes containing a letter of explanation to parents, the parents' consent form, and screening materials to be completed by parents. The children were asked to give the envelopes to their parents and to return their parents' replies by a specified date. The investigator assigned subjects to groups on the basis of returned materials.

Subjects participated in individual testing sessions conducted in available rooms, cleared of distractions as much as possible, at their schools. Equipment and materials were placed on a table at which the examiner and the subject sat. All sessions were conducted by a male advanced undergraduate who was blind to the depressive status of subjects and the hypotheses

under investigation.[5] At the beginning of each session, the child's consent to participate in the research was obtained, and the examiner administered the child the PPVT (Dunn, 1965).

Following the PPVT, subjects were presented Peacock's (1982) videotaped instructions for the role-play task. They were told that various interpersonal interactions would be depicted on videotape and that they should respond to each one by saying whatever they would say if they were really involved in the situations portrayed. Subjects were reassured there were no "right" or "wrong" things to say and were administered two practice scenes, one involving negative assertion, one involving positive assertion.

Upon completion of the practice scenes, prior to the administration of the role-play task, instructions for completion of the self-statements task were given in simple terms and illustrated with sample statements relevant to the practice role-play scenes. These were read aloud by the examiner as the child read along from a typed sheet. The child practiced completing the self-statements task by indicating whether, while role-playing, he/she had had thoughts similar to each of the statements listed and, if so, indicating whether each self-statement had been weak, medium, or strong.

After the instructions were presented, half the subjects in each group were administered first the block of negative

assertion role-play scenes and the corresponding self-statements task, then the positive forms of these tasks. The order of negative and positive blocks of tasks was reversed for the remaining subjects. The role-play scenes within each block were presented in random order. Subjects were allowed up to 45" to initiate a response to each scene. Role-play responses were audiotaped. Responses to the self-statements tasks were recorded by the examiner.

Upon completion of the tasks, the experimenter thanked the subjects for their participation, gave them the opportunity to ask questions, presented them a rationale for not discussing the details of the research with their classmates, and coached them briefly regarding how to respond to any questions from their classmates.

Dependent Measures

Role-played behavior. Subjects' audiotaped responses were rated independently by trained research assistants who were blind to the depressive status of the subjects and the hypotheses under investigation. The tapes were presented to the raters in a random order. Interrater reliability, calculated for a random sample of 25% of the subjects (128 role-play interactions), was deemed acceptable.[6]

The following five variables were measured or rated: (a) latency of response (to the nearest tenth of a second); (b)

duration of response (to the nearest tenth of a second); (c) length of response (number of words); (d) appropriateness of content (percentage of categories of appropriate content listed on a checklist); (e) overall assertiveness (absolute value of a rating on a 7-point Likert-type scale having anchor points of -6, "non-assertive," and 0, "assertive").

With one exception, the above measures are identical to the role-play behavior measures employed by Peacock (1982). In Peacock's research, five categories of appropriate content for negative assertion scenes (verbal response, relevant response, noncompliant response, request for new behavior, and willingness to problem solve) and five categories of appropriate content for positive assertion (verbal response, relevant response, expression of praise or regard, expression of appreciation, and offer of positive behavior) were included on the appropriateness of content checklists. In the current research, a sixth category (absence of inappropriate content) was added to each checklist.

Assertion-facilitating self-statements scores. Responses to the self-statements tasks were scored by assigning a score of 0 to "no" responses and scores of +1 to "weak" thoughts, +2 to "medium" thoughts, and +3 to "strong" thoughts. The scores were summed to yield two sub-scores each (assertion-inhibiting, assertion-facilitating) for positive assertion-related self-statements and for negative assertion-related

self-statements.

Composite assertion-facilitating self-statements scores for each form of the task were obtained by dividing each subject's assertion-facilitating sub-score by the sum of the sub-scores (total score) and multiplying by 100. Thus, the composite scores represented the percentge of all thoughts reported by subjects which were assertion-facilitating. Use of the composite scores has the advantage of reflecting whether subjects' thoughts are conflicted (mid-range scores) or relatively conflict-free (scores at the extremes), a distinction not taken into account in previous measures of assertion-related self-statements (Bruch, 1981; Fiedler & Beach, 1978; Pitcher & Meikle, 1980; Schwartz & Gottman, 1976). Also, the single score presumably reflects the overall impact of individuals' self-statements.

Results

A 2 x 2 x 2 multivariate analysis of variance (MANOVA) for a mixed design with one between-subjects factor, depressive status (D), and two within-subjects factors, sex of role-play partner (SEX-RP) and scene content (CON), was performed on the five behavioral measures.[7] This analysis failed to yield a significant main effect for D or any significant interaction effects involving D. It should be noted, though, that one of the associated univariate F's was significant and another approached significance, as can be seen in Table 2 (next page).

Depressed and nondepressed subjects differed significantly in duration of response [$F(1,62)=4.4967$, $p=.0357$]; their differences in length of response approached significance [$F(1,62)=3.3482$, $p=.0686$]. Depressed subjects' responses were

Table 2

Group Means on Assertion Role-Play Measures

		Role-Play Behavior				
Group	PIC D[a]	Lat.	Dur.*	Len.**	App.	O.A.
Depressed	21.6	3.4	1.4	6.4	65.7	2.4
Nondepressed	2.9	3.1	2.1	8.4	66.0	2.2

NOTE: Lat.=latency; Dur.=duration; Len.=length; App.=appropriateness of content; O.A.=overall assertiveness.

[a] Mean Personality Inventory for Children Depression scale scores.

*Difference between groups significant, $p=.0357$; **difference approached significance, $p=.0686$.

shorter in time ($M=1.4$) and in number of words ($M=6.4$) than were the responses of nondepressed subjects (M duration=2.1; M length=8.4). The direction of differences in the responses of depressed and nondepressed subjects on the remaining three

behavioral measures were in the expected directions, though nonsignificantly so. Depressed subjects exhibited longer latencies, expressed less appropriate content, and received higher (less assertive) ratings of overall assertiveness.

Significant multivariate main effects for both situational variables, SEX-RP [$F(5,58)=4.3226$, $p=.0024$] and CON [$F(5,58)=25.0718$, $p=.0001$], and a significant interaction between SEX-RP and CON [$F(5,58)= 4.3469$, $p=.0023$] were obtained. Two other MANOVAs failed to reveal significant main effects for sex of subject (SEX-S) or order of task presentation. The interested reader should consult Campbell-Goymer's (1983) dissertation for details.

Self-statements. Three analyses of subjects' self-statements scores were conducted; these were 2(D) x 2(SEX-S) x 2(CON) ANOVAs for a Lindquist Type III design, one examining assertion-inhibiting sub-scores, another examining assertion-facilitating sub-scores, and the third examining composite scores.[8] The results for the main effect of D are summarized in Table 3 (next page).

The first analysis indicated that assertion-inhibiting sub-scores were influenced by D [$F(1,60)=7.362$, $p=.0085$] and by CON [$F(1,60)=7.292$, $p=.0088$]. Depressed subjects ($M=3.8$) reported more assertion-inhibiting thoughts than did nondepressed subjects ($M=2.3$). Subjects reported more assertion-inhibiting

thoughts in negative (M=3.6) than in positive (M=2.6) assertion interactions.

Table 3

Group Means on Self-Statements Measures

Groups	PIC D[a]	Self-Statements AF*	AI*	C***
Depressed	21.6	8.6	3.8	68.2
Nondepressed	2.9	9.2	2.3	82.8

NOTE: AF=assertion-facilitating sub-scores; AI=assertion-inhibiting sub-scores; C=composite scores [(AF/AF+ AI) X 100].

[a] Mean Personality Inventory for Children Depression scale scores.

* Group differences approached significance, p=.0613;

**p=.0085; **p=.0002.

In the second analysis, a main effect of D on subjects' assertion-facilitating sub-scores approached statistical significance [F(1,60)=3.546, p=.0613], with depressed subjects (M=8.6) reporting fewer assertion-facilitating self-statements than did nondepressed subjects (M=9.2). A main effect for CON [F(1,60)=13.701, p=.0008] revealed that subjects reported fewer

assertion-facilitating thoughts in negative (M=8.5) than in positive (M=9.8) assertion interactions.

The final analysis indicated that composite scores were influenced by D [$F(1,60)$=18.802, p=.0002] and CON [$F(1,60)$=27.946, p=.0001]. Nondepressed subjects obtained higher scores (M=82.8) than did depressed subjects (M=68.2), i.e., reported thought patterns which were more consistently assertion-facilitating. Negative assertion interactions (M=69.2) elicited more inconsistent, or conflicted, thought patterns than did positive assertion interactions (M=81.8).

In none of the self-statements analyses were effects associated with SEX-S significant.

Relationship between role-played behavior and self-statements. A Pearson product-moment correlation coefficient was computed on subjects' composite self-statements scores and judges' ratings of subjects' overall assertiveness (averaged across positive and negative scenes). Though the magnitude of the correlation was small (r=-.189), it was statistically significant ($p \leq .05$) and in the predicted direction (lower overall assertiveness ratings represent greater assertiveness).

Discussion

The results of both studies lend support to the practice of extrapolating from research and theory on depression in adults,

specifically, cognitive theory and research, to childhood depression. They also add to the growing list of investigations (e.g., Kaslow, 1981; Leon et al., 1980; Moyal, 1977) which have demonstrated in children cognitions which appear similar to those found in depressed adults.

In the first study, the Cognitive Distortion Task (Krantz & Hammen, 1979) was satisfactorily modified for use with older children, and the results obtained were very similar to those obtained in research on adults (Krantz & Hammen, 1979; Blaney et al., 1980). In all analyses, the experimental hypotheses were upheld. The causal direction of the relationship between childhood depression and distorted, depressed cognitions was not, of course, established; however, it is clear that, as measured in this research, increased cognitive distortion is associated with increased depression in children. The results are thus consistent with, though not definitive support for, Beck's (1967; 1974) belief that depression is a consequence of faulty thought patterns that develop early in life.

Support for a cognitive view of depression was also provided in the second study. The analyses of subjects' self-statements indicated that depressed subjects' assertion-related thoughts were more conflicted and less facilitative of assertion than were those of nondepressed subjects; depressed subjects differed specifically by thinking more assertion-inhibiting thoughts.

Also, the correlation between subjects' self-statement patterns and overt assertiveness, though small, is consistent with the view that self-statements mediate overt behavior. This study appears to be the first empirical examination of depressed individuals' assertion-related thoughts, but the relatively unassertive, inhibiting thoughts characterizing the depressed subjects appear to be similar to the passivity-inducing thoughts of depressed individuals reported by other investigators (e.g., Beck, 1967; Rehm, 1977; Wolpe, 1979).

The demonstration of cognitive differences in the depressed and nondepressed subjects in the second study is noteworthy in that subjects were assigned to groups on the basis of parent-reported childhood depression. This means of assigning subjects provided a more rigorous test of the centrality of cognitive features in children's depression than would have the assignment of subjects to groups on the basis of self-reported depression. It would be interesting to substitute the PIC D scale for the CDI in a replication of the first study. If results similar to the current ones were obtained, they would lend further support to the centrality of cognitions in childhood depression. In such extensions of the current research, it is recommended that the examiner read aloud all the stories and questions comprising the CCDT, to encourage completion of all items by subjects.

The results of the second study are mixed regarding the relationship between childhood depression and overt assertion. The initial multivariate analysis of depressed and nondepressed subjects' role-played behavior yielded null findings; only in a univariate analysis and post hoc multivariate analyses were significant differences between these groups' skills identified. The latter results provide some data consistent with Lewinsohn's (1974) observation that depression is characterized by social skills deficits. Replications and extensions of the research are needed, however, to determine the reliability of other findings (Peacock, 1982) suggesting depressed children are deficient in assertion skills.

Cognitive theorists would, presumably, be relatively unconcerned that clear differences in the overt behavior of the depressed and nondepressed subjects were not demonstrated, especially since the subjects were not drawn from a clinical population. Several cognitively-oriented theorists (e.g., Beck, 1967; Bemporad, 1978a; Kanfer & Hagerman, 1981; Rehm, 1977) have suggested behavioral deficits in depressed individuals develop over time. They describe depression as a vicious cycle in which increasing preoccupation with depressive thoughts leads to increasing unresponsiveness to external stimulation and increased behavioral deficits. Presumably, early in the development of depression, cognitive deficits would be evident whereas

behavioral deficits would not. Longitudinal data would help clarify the validity of these views.

Clearly, more research is needed to establish the essential features, etiology, and course of depression in children. The current studies do indicate, however, that selected maladaptive cognitions are reliable correlates of even mild depression in children; it seems plausible that such cognitions play a role in mediating other deficits experienced by depressed children. Researchers and clinicians should be alert to the cognitive features of childhood depression and to their possible role in instigating and/or perpetuating depression in children.

References

Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 87, 49-74.

Beck, A. T. (1967). Depression: Causes and treatment. Philadelphia: University of Pennsylvania Press.

Beck, A. T. (1974). The development of depression: A cognitive model. In R. J. Friedman & M. M. Katz (Eds.), The psychology of depression: Contemporary theory and research. New York: John Wiley & Sons.

Bemporad, J. (1978a). Additional remarks on the relation between cognition and depression. In S. Arieti & J. Bemporad, Severe and mild depression: The psychotherapeutic approach. New York: Basic Books, Inc.

Bemporad, J. (1978b). Manifest symptomatology of depression in children and adolescents. In S. Arieti & J. Bemporad, Severe and mild depression: The psychotherapeutic approach. New York: Basic Books, Inc.

Birleson, P. (1981). The validity of depressive disorder in childhood and the development of a self-rating scale: A research report. Journal of Child Psychology and Psychiatry, 22, 73-88.

Blaney, P. H. (1977). Contemporary theories of depression: Critique and comparison. Journal of Abnormal Psychology, 86, 203-223.

Blaney, P. H., Behar, V., & Head, R. (1980). Two measures of depressive cognitions: Their association with depression and each other. Journal of Abnormal Psychology, 89, 678-682.

Bruch, M. A. (1981). A task analysis of assertive behavior revisited: Replication and extension. Behavior Therapy, 12, 217-230.

Campbell-Goymer, N. R. (1983). Assertive behavior and assertion-related cognitions of depressed and nondepressed children. (Doctoral dissertation, University of Alabama, 1982) Dissertation Abstracts International, 43, 3023B.

Cantwell, D. P., & Carlson, G. (1979). Problems and prospects in the study of childhood depression. Journal of Nervous and

Mental Diseases, 167, 522-529.

Carlson, G., & Cantwell, D. P. (1980a). A survey of depressive symptoms, syndrome, and disorder in a child psychiatric population. Journal of Child Psychology and Psychiatry, 21, 19-25.

Carlson, G., & Cantwell, D. (1980b). Unmasking depression in children and adolescents. American Journal of Psychiatry, 137, 445-449.

Conners, C. K. (1976). Classification and treatment of childhood depression and depressive equivalents. In D. M. Gallant & G. M. Simpson (Eds.), Depression: Behavioral, biochemical, diagnostic, and treatment concepts. New York: Spectrum Publications, Inc.

Cytryn, L., McKnew, D. H., Jr., & Bunney, W. E., Jr. (1980). Diagnosis of depression in children: A reassessment. American Journal of Psychiatry, 137, 22-25.

Dunn, L. M. (1965). Expanded manual for the Peabody Picture Vocabulary Test. Circle Pines: American Guidance Service, Inc.

Fiedler, D., & Beach, L. R. (1978). On the decision to be assertive. Journal of Consulting and Clinical Psychology, 46, 537-546.

Kanfer, F. H., & Hagerman, S. (1981). The role of self-regulation. In L. P. Rehm (Ed.), Behavior therapy for depression: Present status and future directions. New York: Academic Press.

Kaslow, N. J. (1981, August). Depression in children: Social cognitive and cognitive correlates. Paper presented in L. P. Rehm (Chair), Empirical Studies in Childhood Depression. Symposium at the annual meeting of the American Psychological Association, Los Angeles, CA.

Kovacs, M. (1981). Rating scales to assess depression in school-aged children. Acta Paedopsychiatrica, 46, 305-315.

Kovacs, M., & Beck, A. T. (1977). An empirical-clinical approach toward a definition of childhood depression. In J. G. Schulterbrandt & A. Raskin (Eds.), Depression in childhood: Diagnosis, treatment, and conceptual models. New York: Raven Press.

Krantz S., & Hammen, C. (1979). Assessment of cognitive bias in depression. Journal of Abnormal Psychology, 88, 611-619.

Leon, G. L., Kendall, P. C., & Garber, J. (1980). Depression in children: Parent, teacher, and child perspectives. Journal of Abnormal Child Psychology, 8, 221-235.

Lewinsohn, P. M. (1974). A behavioral approach to depression. In R. J. Friedman & M. M. Katz (Eds.), The psychology of depression: Contemporary theory and research. New York: John Wiley & Sons.

Moyal, B. R. (1977). Locus of control, self-esteem, stimulus appraisal, and depressive symptoms in children. Journal of Consulting and Clinical Psychology, 45, 951-952.

Orvaschel, H., Weissman, M. M., & Kidd, K. K. (1980). Children and depression: The children of depressed parents; the childhood of depressed patients; depression in children. Journal of Affective Disorders, 2, 1-16.

Peacock, R. A. (1982). Situational determinants of assertiveness in depressed and nondepressed girls. (Doctoral dissertation, University of Alabama, 1981) Dissertation Abstracts International, 42, 3831B.

Pitcher, S. W., & Meikle, S. (1980). The topography of assertive behavior in positive and negative situations. Behavior Therapy, 11, 532-547.

Rehm, L. P. (1977). A self-control model of depression. Behavior Therapy, 8, 787-804.

Schwartz, R. M., & Gottman, J. M. (1976). Toward a task analysis of assertive behavior. Journal of Consulting and Clinical Psychology, 44, 910-920.

Shaw, B. F., & Dobson, K. S. (1981). Cognitive assessment of depression. In T. V. Merluzzi, C. R. Glass, & M. Genest (Eds.), Cognitive assessment. New York: Guilford Press.

Wirt, R. D., Seat, P. D., & Broen, W. E. (1977). Personality Inventory for Children: Administration booklet. Los Angeles: Western Psychological Services.

Wolpe, J. (1979). The experimental model and treatment of neurotic depression. Behaviour Research and Therapy, 17, 555-565.

Appendix

Sample CCDT Story

It is Friday at school, and all of the boys are getting dressed after gym period. Bob has just met most of the guys so he is a little shy around most of them. He has been friends with Glen for awhile; he spent the night with him once. They camped out overnight and had a great time. Bob hears Glen on the other side of the lockers ask two of the other boys over to his house for a campout in the backyard.

Imagine that you are Bob and answer the following questions:

1. When you hear Glen ask the other boys, at first you feel:
   a. Unhappy; I figure that Glen does not like me.(DD)
   b. OK; I'm sure he will invite me too.(NDD)
   c. Unhappy; I would have liked to have been invited first.(DND)
   d. OK; if he doesn't invite me this time, we can still be friends.(NDND)

2. While at home that weekend, you:

   a. Don't feel upset because I know that this is just one time I didn't get invited; it will never happen again.(NDD)
   b. Feel fine because I can find plenty of things to do with my family and friends in the neighborhood.(NDND)
   c. Feel disappointed and sad, but figure that I can't be invited every time.(DND)
   d. Feel sad because I think I will never get invited to camp out again.(DD)

3. You're watching TV, eating popcorn, but you keep thinking:

   a. I feel fine, but I hope Glen invites me to camp out again.(NDND)
   b. I feel a little left out, but I guess everybody does now and then.(DND)
   c. I wish I could make good friends, but I guess I never will.(DD)
   d. When summer comes, a lot of people will invite me places.(NDD)

Appendix continued

4. Your parents have always told you how nice you are and that you will always have friends; you are tninking about this and you:

   a. Think they only tell me this because I am their son; I will never have friends.(DD)
   b. Feel unhappy because it seems to take so long to make friends.(DND)
   c. Think it does not matter if I make friends or not.(NDD) (NDD)
   d. Think I will make some friends, like Mom and Dad said; it just takes time.(NDND)

Footnotes

[1]The situational specificity of children's assertive behavior, the possibility of sex differences in children's assertion-related thoughts and behavior, and the correspondence between two measures of childhood depression were also investigated. The interested reader should consult Campbell-Goymer's (1983) dissertation.

[2]The CDI and its administration and scoring guides are available from Marie Kovacs, Ph. D., Western Psychiatric Institute and Clinic, 3811 O'Hara Street, Pittsburgh, PA, 15261.

[3]A 2 x 2 x 2 factorial MANOVA employing depressive status, sex of subject, and order of task presentation as the between-subjects factors demonstrated the equivalence of the eight groups of subjects on five variables: age(M=144.4 months), grade level (M=6.0), intelligence (M IQ=108.0), socioeconomic status (M years parents' education=13.2; M family income ranking=6.1).

[4]The negative form also included five aggression-facilitating self-statements. Since the aggression measure yielded null findings, however, they are not presented. For the same reason, measures of subjects' aggressive behavior and self-evaluations are not described or discussed. The interested reader should refer to Campbell-Goymer's (1983) dissertation.

[5]A pilot study for this research failed to demonstrate any experimenter effects on the variables under investigation.

[6]Pearson correlation coefficients of .994 and .997 were obtained for the latency and duration measures, respectively. Percentages of agreement [(# agreements/# agreements + # disagreements) x 100] of 82.2, 93.5, and 85.0 were obtained for the length, appropriateness of content, and overall assertiveness measures, respectively. Also, a correlation coefficient of .967 was obtained for the length of response measure.

[7]Post hoc multivariate analyses were conducted on four different groupings of the role-play data: girls' data, boys' data, data obtained with the negative-positive order of task presentation, data obtained with the positive-negative order of task presentation. A main effect for D was obtained in the analysis of boys' data (with depressed boys giving briefer and overall less assertive responses). In the analysis of positive-negative data, D interacted significantly with CON, but no associated univariate F's were significant.

[8]A preliminary analysis of self-statement scores did not reveal significant differences in the groups' overall endorsement of items; that is, none of the four groups of subjects appeared more likely to approach the task with an acquiescent response set.